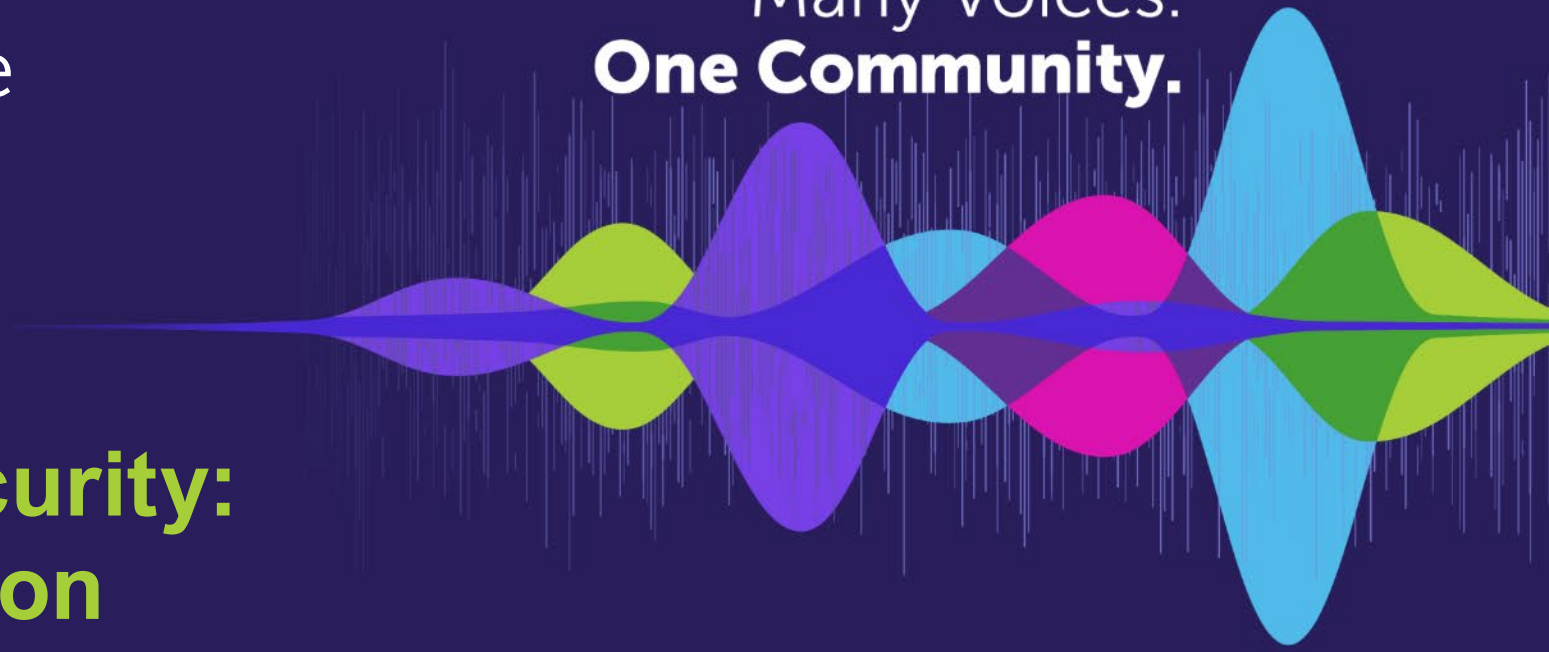
RSAC 2025 Conference

Many Voices. One Community.

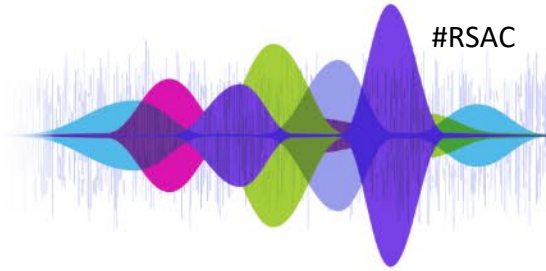


SESSION ID: DSA-T10

Accessibility and Security: A Winning Combination

Jen Smith

Director of Accessibility, Strategic Initiatives & Partnerships
Visa
LinkedIn.com/in/jennifer-smith-pcwa



Disclaimers

Visa

The information in this document: (i) is provided on an “as is, where is” basis, “with all faults” known and unknown; (ii) is intended for informational purposes only, and (iii) should not be relied upon for operational, marketing, legal, technical, tax, financial or other advice. Visa makes no warranty or representation as to the completeness or accuracy of such information, nor assumes any liability or responsibility that may result from reliance on such information. The information contained herein is not intended as investment, tax, legal or other advice; and, if such advice is needed, please seek the advice of a competent professional.

The materials and best practice recommendations are provided for informational purposes only and should not be relied upon for marketing, legal, regulatory or other advice. Recommended marketing materials should be independently evaluated in light of your specific business needs and any applicable laws and regulations. Visa is not responsible for your use of the marketing materials, best practice recommendations, or other information, including errors of any kind, contained in this document or any use or conclusion you may reach based upon them.

©2025 Visa. All rights reserved.

RSA Conference

Presentations are intended for educational purposes only and do not replace independent professional judgment. Statements of fact and opinions expressed are those of the presenters individually and, unless expressly stated to the contrary, are not the opinion or position of RSA Conference LLC or any other co-sponsors. RSA Conference LLC does not endorse or approve, and assumes no responsibility for, the content, accuracy or completeness of the information presented.

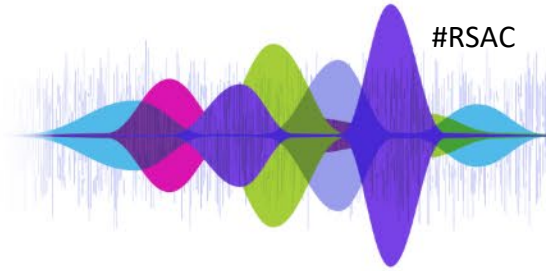
Attendees should note that sessions may be audio- or video-recorded and may be published in various media, including print, audio and video formats without further notice. The presentation template and any media capture are subject to copyright protection.

© 2025 RSA Conference LLC or its affiliates. The RSAC and RSAC CONFERENCE logos and other trademarks are proprietary. All rights reserved.

Shared Goals

Educate
Highlight the importance of accessibility in security
Learn
Listen with an open mind to understand where this impacts your work
Apply
Start with one persona to consider building for in your current work

Apply What You Learn



- **Next week:**
  - Pick from one of the personas or create your own to consider as a user in your system
- **Within 3 months:**
  - Walk through your flow as that persona to learn where *their* barriers are to access the features and functionality you've created.
    - Get help and support where needed (i.e. using assistive technology, understand a disability). If you have one, talk to your internal team of experts.
  - Determine what needs to be done to remove barriers whether directly or in collaboration with others.
- **Within 6 months:**
  - Have a roadmap in place to address the problem(s) for your chosen persona.
  - Add to the roadmap how you will validate and measure the impact.
  - Drive the roadmap with collaborators to take the improvements live.

PUBLIC DOMAIN

Source 1. USAF Aircraft Accident Reports for 1950

PUBLIC DOMAIN

Source 2: Todd Rose, "End of Average"

Flaw of Averages

1. of the original 4063 men
   1055 were of approximately average stature

2. of these 1055 men
   302 were also of approximately average chest circumference

3. of these 302 men
   143 were also of approximately average sleeve length

4. of these 143 men
   73 were also of approximately average crotch height

5. of these 73 men
   28 were also of approximately average torso circumference

6. of these 28 men
   12 were also of approximately average hip circumference

7. of these 12 men
   6 were also of approximately average neck circumference

8. of these 6 men
   3 were also of approximately average waist circumference

9. of these 3 men
   2 were also of approximately average thigh circumference

10. of these 2 men
    0 were also of approximately average in crotch length

Source 3: Lt. Gilbert Daniels, "The Average Man?"

PUBLIC DOMAIN

Sources 4-6: Population Clock, Global Economics of Disability, Macro Market Study, World Health Organization Disability Data

This Photo by Unknown Author is licensed under CC BY-ND

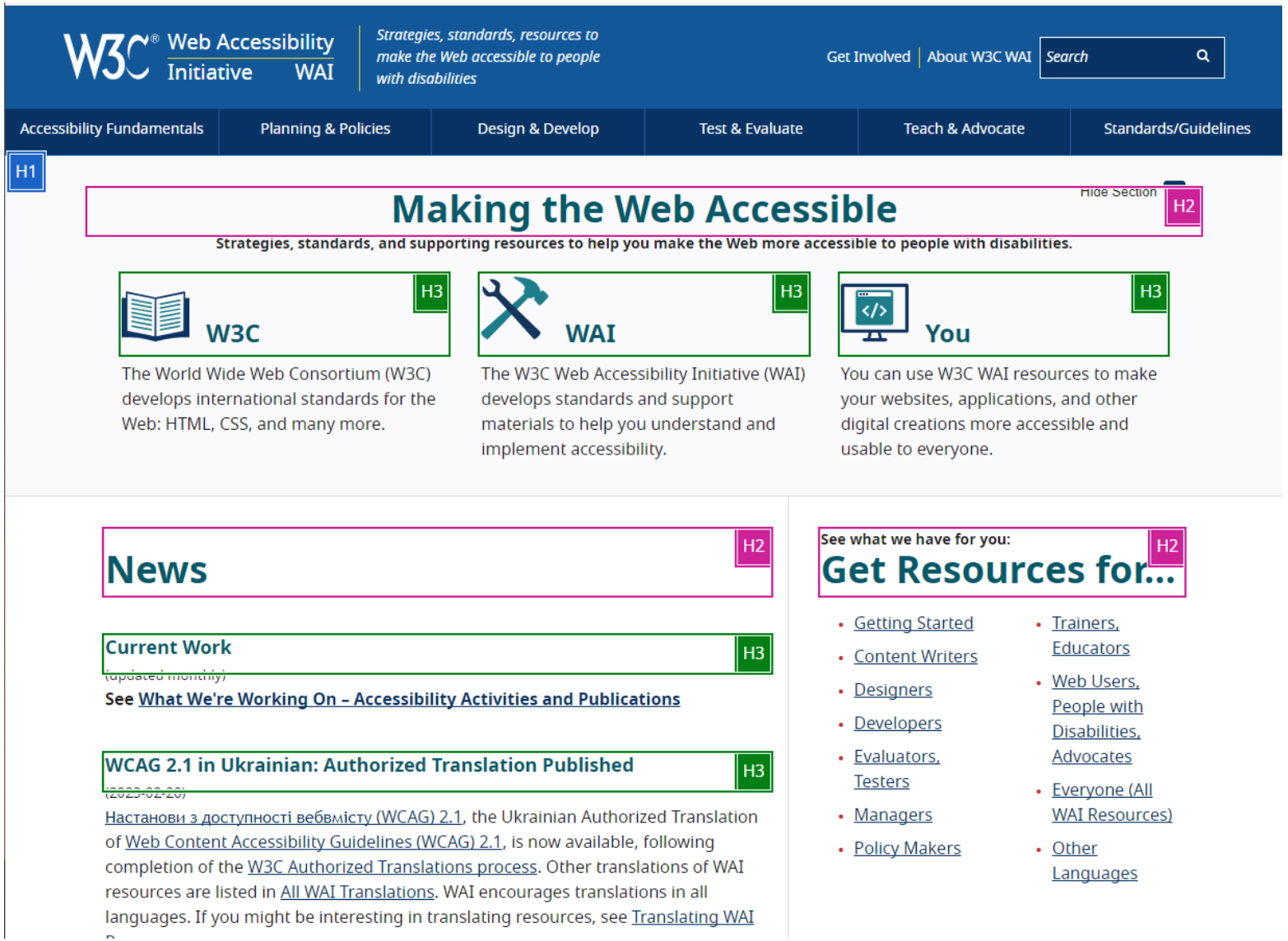
Source 7: 2024 Digital Accessibility Lawsuit Report Released: Insights for 2025 | UsableNet, Inc.

This Photo by Unknown Author is licensed under CC BY
Anonymous Hacker Group Destroyed 1 Million Web Pages Owned by Coca-Cola, ToysRUs, McDonald's from GB Hackers

RSAC™ 2025 Conference

Basics of Digital Accessibility

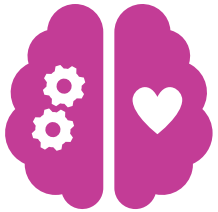
Accessibility gives structure to unstructured content


W3C Web Accessibility Initiative WAI
Strategies, standards, resources to make the Web accessible to people with disabilities
Get Involved
About W3C WAI
Search
Accessibility Fundamentals
Planning & Policies
Design & Develop
Test & Evaluate
Teach & Advocate
Standards/Guidelines
H1
Making the Web Accessible
Hide Section
H2
Strategies, standards, and supporting resources to help you make the Web more accessible to people with disabilities.
H3
W3C
The World Wide Web Consortium (W3C) develops international standards for the Web: HTML, CSS, and many more.
H3
WAI
The W3C Web Accessibility Initiative (WAI) develops standards and support materials to help you understand and implement accessibility.
H3
You
You can use W3C WAI resources to make your websites, applications, and other digital creations more accessible and usable to everyone.
H2
News
H3
Current Work
(updated monthly)
See What We're Working On – Accessibility Activities and Publications
H3
WCAG 2.1 in Ukrainian: Authorized Translation Published
(2023-02-20)
Настанови з доступності вебвмісту (WCAG) 2.1, the Ukrainian Authorized Translation of Web Content Accessibility Guidelines (WCAG) 2.1, is now available, following completion of the W3C Authorized Translations process. Other translations of WAI resources are listed in All WAI Translations. WAI encourages translations in all languages. If you might be interesting in translating resources, see Translating WAI
See what we have for you:
H2
Get Resources for...
Getting Started
Content Writers
Designers
Developers
Evaluators, Testers
Managers
Policy Makers
Trainers, Educators
Web Users, People with Disabilities, Advocates
Everyone (All WAI Resources)
Other Languages

Digital Accessibility Standards

Like the physical world and even the cybersecurity industry, we use standards. For accessibility, it is the Web Content Accessibility Guidelines* (WCAG)—international standards from the W3C. The criteria help people build digital experiences that are **Perceivable, Operable, Understandable, and Robust.**

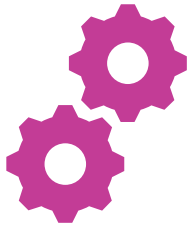
Perceivable



Operable

Understandable

Robust



Source 9: WAI's WCAG 2.2 Quick Reference

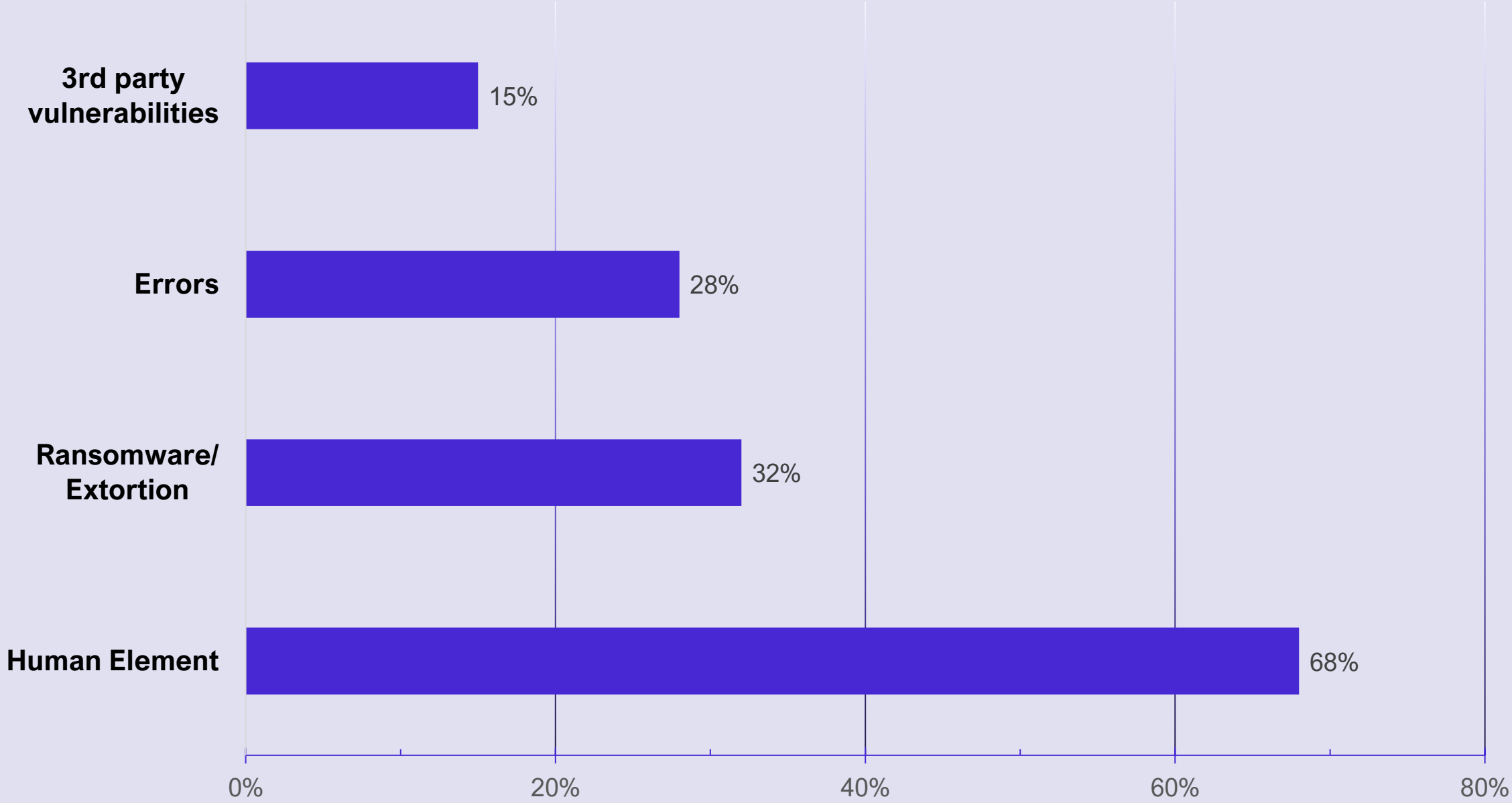
Spectrum of Abilities

	Permanent	Temporary	Situational
Touch	One arm	Arm injury	New parent
See	Blind	Cataract	Distracted driver

	Permanent	Temporary	Situational
Hear	Deaf	Ear infection	Bartender
Speak	Non-verbal	Laryngitis	Heavy accent

Source 10: Microsoft's Inclusive 101 Guidebook

Involved in Breaches



Source 11: Verizon 2024 Data Breach Investigations Report

RSAC 2025 Conference

The People

When best practices become essential

Many Voices.
One Community.

Jorge

21 years old
Atlanta, Georgia, USA

Job

Undergrad at Georgia Tech's School of Cybersecurity and Privacy

About

- Loves making jewelry in his spare time
- Avid reader, especially fantasy novels
- Plays Goal Ball every Saturday

Concern

Blind since birth, Jorge excels in computer engineering but faces more hurdles as he starts to specialize in Cybersecurity since many of the tools don't work for his assistive technology, the JAWS screen reader.

Motivation

Jorge got a full ride scholarship to GT and is excited to be in Atlanta after growing up in a small Montana town. He's interested in bringing fresh ideas and approaches to the complexities of cybersecurity. Jorge feels like he has unique experiences that make him an asset to the industry.

Journey

As his coursework gets more difficult and the tools less accessible, he's worried he might hit a wall and all his work to get where he is will be for nothing. Jorge has heard stories about some people working through the issues to get a degree and a job. But, more often he hears stories about people leaving the field all together and doing something else. Jorge is passionate about cybersecurity and wants to see how far he can go.

Cybersecurity Struggles

The Cybersecurity tools that don't work for his screen reader mean that in those instances, he spends extra time getting to the same point as his classmates. Sometimes he has to ask his classmates or professors for help. When things *are* accessible, he's frequently more efficient in finding information and gaining insights than his cohorts.

Calvin

24 years old
Austin, Texas, USA

Job

Cybersecurity intern working on new AI tool

About

- Working on his Master's in Cybersecurity
- Plays digital board games
- Likes to explore the city with his friends, trying the latest restaurants.

Concern

After an injury from a scooter accident, his dominant left elbow is sprained, and wrist is fractured. Calvin is using a keyboard alone at work and has ditched the mouse.

Motivation

Calvin wants to make the most of his 12-week internship despite his injury. Proving his ability with this high-visibility project could get him his dream job. He's worried that if this internship doesn't go well, he'll lose future opportunities.

Journey

The high-security project requires him to authenticate often because of a 15-minutes inactivity time out. Calvin is tempted to go around security measures to prevent it when he's in a meeting or goes to the café for a quick snack. But he knows he isn't supposed to compromise his credentials and doesn't want to chance creating a hack. He's aware of the real-time attacks that can happen and why the policy is in place…he just wishes there was something to help him not lose out on his productivity.

Cybersecurity Struggles

With his injury, he uses his non-dominant right hand and is less precise when typing his complex, 12-digit password. His company doesn't allow password managers or pasting content into the login screen. Because he's using the keyboard, when the time out modal appears, he can't navigate to it fast enough before his session expires.

Preethi

35 years old
Adelaide, Australia

Job
Sr. Cybersecurity Engineering Manager

About
- Leads a team of 16 Pen testers
- Loves to travel
- Prepping her first show as an amateur photographer

Concern
She was diagnosed with retinitis pigmentosa, a progressive eye disease with worsening symptoms which eventually leads to blindness. Right now, her tunnel vision isn't bad, but her eyes easily get tired.

Motivation
Preethi is up for a promotion to Director. Her team collaborates well, managing high impact projects and exceeds expectations. She hasn't shared her condition with colleagues and worries that if she does, they will think less of her and/or remove her from difficult projects. She also worries about losing her edge or being seen as incapable when she feels she's finally reached her prime.

Journey
She knows she is at a crossroads to either speaks up and asks for support or continue to work harder to keep her disability quiet and find her own ways to adapt. Preethi has a lot of ways to modify the data views from current platforms to her own, custom views. There are also certain tools that just don't work at all, so she delegates those responsibilities to someone else and finds business justifications to hide why she's not doing those tasks.

Cybersecurity Struggles
The innovations from her team have fantastic potential. But as her vision decreases, she realizes a lot of the data, tools, and techniques rely on either being able to see visualizations with specific meaning, or on tools that are not flexible enough to adjust even to her current customized dark mode setting and increased font size.

Mo

41 years old
Warsaw, Poland

Job

Senior VP of Sales

About

- Avid skier
- Loves playing drums and is learning guitar
- Speaks 4 languages

Concern

Mo has Multiple Sclerosis, a disease that impacts the protective covering of nerves. His symptoms flair up and recede but are progressing with fewer breaks. Most frequently, he experiences blurry vision & brain fog but sometimes has a hard time walking & is randomly weak.

Motivation

Frequent travel is more taxing now and leads to longer, more severe flair ups. A few people know about his condition—family, executive assistant, and some colleagues—but they forget because he seems healthy. He's scared about the sudden increase in symptoms and wants to do the most he can before others appear, or the existing ones get worse.

Journey

International travel and intermittent connectivity to networks makes following all the company policies very difficult. With less mental energy to focus on the complex, differing requirements to access his work accounts, Mo tends to rely only on his mobile device because it adapts better to his ever-changing environment and fluctuating abilities.

Cybersecurity Struggles

The requirements for Mo to use his tools while traveling are often too much. It is clear the company's IT team only developed them for people on a desktop, in an office, and with good connections. Mo wastes a lot of time trying to perform actions not meant to be done on a phone, but that is the only way he can really get bits of work done in his fast-paced work life.

Jane

49 years old
Vancouver, BC, CA

Job

Director of accessibility at a software company

About

- Likes taking long walks with her dog
- Plays video games with her kids despite losing a lot and being the brunt their jokes
- Spends time crocheting, cross stitching, and felting

Concern

Jane is sandwiched between caretaking for kids and parents who live with her. Her ADHD is harder to manage with how complex and fast the world is changing, plus so many different people and needs to care for.

Motivation

Jane wants to keep her family secure while also giving each person agency to manage their own accounts and profiles. Even though Jane works in a technical role, she is a generalist about several topics outside her own area of expertise, but feels things are changing too quickly to keep up with.

Journey

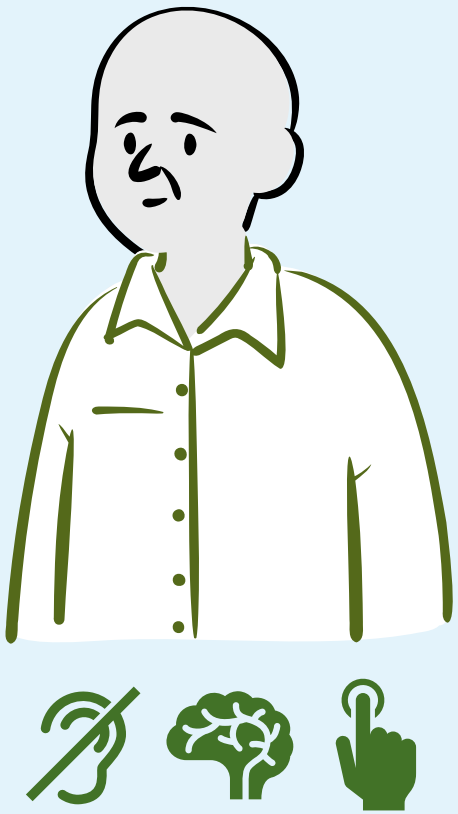
Often, she avoids trying too many new things because she knows it is just one more account to manage. When Jane is caught debugging a login or account issue, she's tempted to cut corners by removing restrictions to give more flexibility either to a kid who is ramping up their online privacy/security knowledge, or to aging parents who just want to do something that should be simple.

Cybersecurity Struggles

Every site seems to use different tools and policies, many with rigid experiences. When creating accounts for her kids, versions for them are either too permissive or too strict. For her parents, she struggles to figure out and keep up with how they created their profiles, what information and devices they tethered to accounts, and how many new accounts they create or passwords they reset when they fail. When Jane is trouble shooting issues, she is often interrupted by questions from her family or her own ADHD, so she loses track and must restart the process again.

Dan

67 years old
Boston, Mass., USA



Job

Newly retired, former CEO of a regional retailer

About

- Enjoys his new hobbies: woodwork & gardening
- Adjusting to life without a team to handle his schedule & digital logistics
- Not a digital native, but loves the latest tech gadgets

Concern

A proud cancer survivor, Dan's hearing is not as sharp as it used to be so he's missing out on more. Also, he's developed tremors in his hands and brain fog that reminds him of 'chemo brain' from 20 years ago. He's worried about telling people and reluctant to go to the doctor because he'd rather not know if this is normal aging or something more.

Motivation

In retirement, Dan wants to stay current and contribute to the community. He just joined the board of his favorite non-profit that helps kids learn about tech and business. The board meets online and uses the cloud to share files and agendas. They also use a chat app to talk outside of meetings.

Journey

Dan saved well for retirement and can afford to hire support. He's considering hiring a college student to help him with all his digital needs and keeping him updated on the latest technology. Dan knows that understanding current practices helps him create innovative ideas.

Cybersecurity Struggles

He's not used to the complexity of creating and managing his own online accounts. Whether it is sharing documents, joining online meetings, a chat, or even sending an email, it all takes him longer to navigate because just when he figures it out, the interface changes again. He often leaves his cell phone at home and then can't validate his accounts with all the types of codes that are texted or emailed to him. When that happens, he is blocked. It's also a problem when all he's given is a QR for anything.

Secure & Accessible Top 3

- Forms and errors
- Authentication
- Social Engineering

Forms and Errors

Pass

Username or email*

i.e. JohnChu@email.com

```
<label for="Username">Username or email*</label>
<input type="text" name="Username" required
id="Username" autocomplete="on" type="username"
placeholder="i.e. JohnChu@email.com" />
```

Phone*

425=555-5555

Please enter a valid phone number using the format 123-555-4567.

```
<label for="phone">Phone*</label>
<input type="number" min="12" max="12" required
name="Phone" id="phone" autocomplete="on"
type="tel-local" placeholder="e.g. 123-555-4567"
aria-invalid="true" />
```

Fail

Your form has errors.
Please correct and submit.

Username

```
<div style="display: inline-flex; border: 1px solid
#e7feff; border-radius: 4px;">
<div id="input" contenteditable="true">Username</div>
</div>
```

…plus JS for event handling and much more

425=555-5555

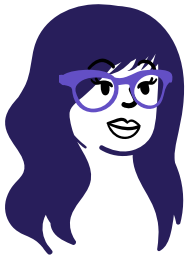
```
<div style="display: inline-flex; border: 1px solid
#dc143c; border-radius: 4px;">
<div style="width: 100px;" contenteditable="true"
maxlength="10" id="phone"></div>
</div>
```

…plus JS for event handling and much more

Forms and Errors: User Feedback

Jorge

"If I had a dime for every inaccessible form field, I could have my own start-up. When I navigate a form with my screen reader and hear 'editable', I know this is not going to be fun. Since I learned to code, at least I can inspect it to see if a class name, text around it, or other detail gives me a hint at what to type. It still just slows me down."



Preethi

"I tend to hack things to customize and make them work for me. But it's so nice when things just adjust to my OS settings so I don't have to. Also, I'm so fast on my keyboard. It is beyond irritating when I can't use it to log in or fill out forms. "

Calvin

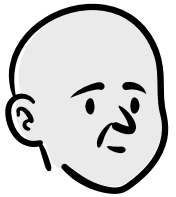
"I need errors right next to the field with clear info, so I immediately know when something should be fixed. Also, when I can't autofill from a password manager, or copy/paste, it is literally a pain."

Mo

"A lot of text isn't bright enough for me and I'm in weird lighting situations a lot, so that makes it worse. When my eyes are *really* bad, I adjust the text size and a lot of things don't change so I pinch & zoom to try to read things."

Jane

"I hate form labels that disappear when I'm in a field. I have to re-enter things so often and when I'm interrupted, I can forget where I left off. So, I delete things and click out of the input to see what it's for. Also, sites use different info and formatting, so I want help to be successful from the start."

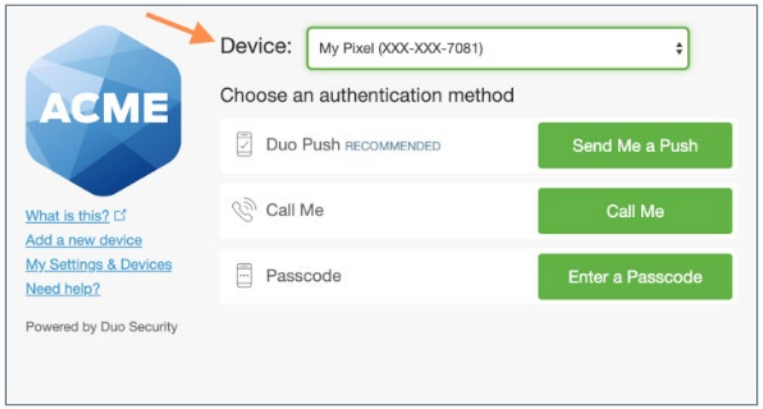


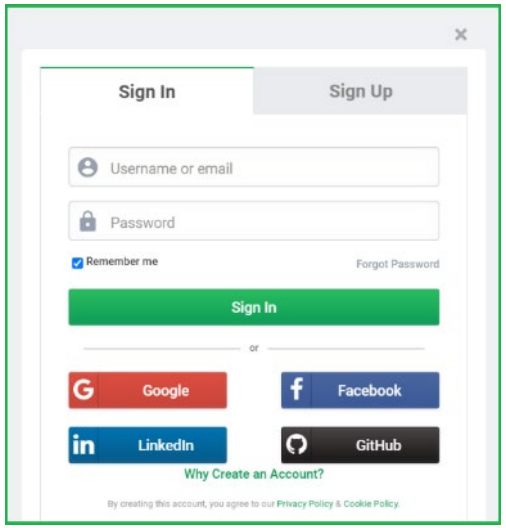
Dan

"I'm so bad at typing, and with my shaky hands, I'm even worse. Typing on my phone isn't better because the keyboard is so small. People tell me to try to use the microphone to dictate instead, but with my thick accent, it doesn't understand me. I try to fill in only the minimum required to get done what I have to."

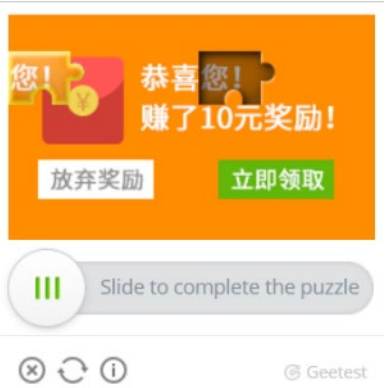
Authentication

Flexible





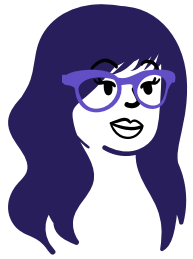
Rigid



Authentication: User Feedback

Jorge

"Authentication is another thing that trips me up. Whether it is image only captchas, or has a garbled audio alternative, there are countless ways I can tell no one thought beyond users who can see and use a mouse. I appreciate more flexible options from Yubi keys to Oauth—all within a flow I trust."



Preethi

"I've lost count of how many different validation methods I've hacked…and now AI has made hacking captchas easy. Computer vision is better than mine! But when I'm not hacking, they are such a barrier. I don't have the time to hack every inaccessible auth."

Calvin

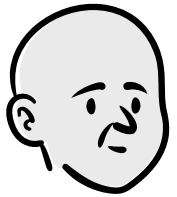
"One of my favorite games uses a captcha that involves sliding a puzzle piece into place to confirm me. I haven't played it since my injury because I'm not precise using my right hand and it doesn't work with a keyboard. For work, I tested a pilot of a Yubi key and that really improved my productivity."

Mo

"My work accounts require me to validate my identity with an image captcha. It's so small on my device, I can't see it. I wish they used features on my phone instead. I have several personal accounts that do this."

Jane

"Using OAuth for my personal accounts and Single Sign On at work helped me reduce the amount of accounts I have to create and manage. There's so much less to remember and I can create better, more secure passwords."



Dan

"My tremors make those image things hard. I mess up a lot and reset my account. Thank goodness I write everything in my password book. When I get lost or mad, I give over the book and ask for help. Also, when a site asks me to turn on 'authentication,' I skip it because I don't know what it means."

Source 12: Human-centered authentication guidelines

Social Engineering

Real

View Your Big Bank Statement
From: customer.service@bigboxbank.com
To: me

Big Box Bank

Dear John,

Your monthly statement has been uploaded to your account. Log in on using our secure app or website.

As a reminder, we will never ask you to confirm your identity via text or email.

Thanks!
Your Big Bank Customer Service Team

Download the Big Bank App

Fake

{Big Bank} You're account is frozen
From: bigbankcutsomerservice@gmail.com
To: me

Big Box Bank

Your account is locked. You have 24 hours to solve your problem or your account will premanently deleted.

Why is my Bix Box account limited?
Your account is in danger from unauthorized access

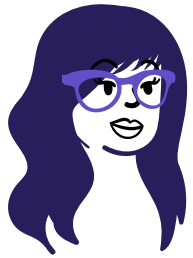
How can I fix the problem?
Click the button below to give us your account details and follow the additional steps.

Confrim your identity

Social Engineering: User Feedback

Jorge

"I find fake emails way faster than my classmates because I don't get caught up by what something looks like. I can hear with my screen reader when things are misspelled, plus read in detail who sent it. I can also spot inconsistencies, like when an email is a picture with no description instead of a real text email that would normally be sent."



Preethi

"It's interesting to see how sophisticated these are now. But it's laughable because I can still tell they didn't make the scam thinking of a person with low-vision. One time, I opened a phishing message in my custom dark mode and it was black text on a black background—a clear sign this wasn't a typical email."

Calvin

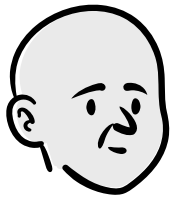
"I didn't realize until now how much I skimmed emails and jumped to conclusions. Now that I use my keyboard to tab to buttons and links, it's a lot easier to find when things are good or might need some further investigation to see if it's legit."

Mo

"Since I give my details for travel, I get a lot of phishing emails. The ones that get through the filter are good, but not good enough. One looked like an exact email I got a few months ago from my preferred airline. When I zoomed in to read it, I found it was a picture of an email they copied because the text got fuzzy."

Jane

"My parents are always showing me texts & emails they get asking for important info. Even my teen gets urgent requests for money from 'friends' on social media. Because we use password managers, even if we get fooled, pulling up a spoof site the password manager doesn't recognize is enough to stop us before it goes too far."



Dan

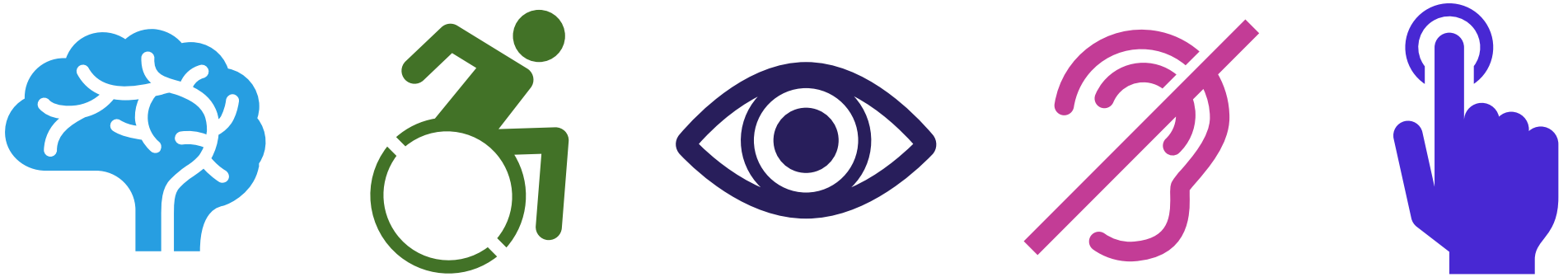
I'm so worried about getting scammed online. Almost everything looks new all the time. Or, the sites I'm used to keep changing, so I can't tell what I can trust. Thankfully, I've hired that smart college student and given them all my passwords so they can help me."

RSAC 2025 Conference

Summary

Highlights

- Rigid approaches to complex, digital problems create as many vulnerabilities as they fix.
- We serve people and need solutions that dovetail with human nature and abilities, instead of considering them flaws.
- Adaptability creates robust, innovative experiences.



Application Reminder

- Next week you should:
  - Pick Jorge, Calvin, Preethi, Dan, Jane or Mo to consider as a user
- In the next three months:
  - Walk through your experience as that person to learn where *their* barriers are to accessing the features and functionality you've created.
    - Get help and support where needed for deeper understanding. For example, reach out to your accessibility team, watch some videos about assistive technology or read articles to start understanding disability.
  - Determine how to remove the barriers whether directly or in collaboration with others.
- Within 6 months you should:
  - Have a roadmap in place to address the problem(s) for your chosen persona.
  - Add to the roadmap how you will validate and measure the impact.
  - Drive the roadmap with collaborators to take the improvements live.

RSAC 2025 Conference

Many Voices.
One Community.

Thank You!

For more info, you can find me on:
LinkedIn.com/in/jennifer-smith-pcwa

Appendix

Sources

1. USAF Aircraft Accident Reports for 1950
    - Images: Pilot of a North American P-51 Mustang in cockpit and Aerial Visuals - North American F-51D Mustang
2. End of Average by Todd Rose
    - Images: B-29 interior | World War Photos and Gilbert Daniels, the gardener who changed our world
3. The "Average Man"? original paper from Gilbert S. Daniels
4. Population Clock
5. Global Economics of Disability, Macro Market Study
6. World Health Organization Disability Data
7. 2024 Digital Accessibility Lawsuit Report & Insights for 2025 from Seyfarth Shaw LLP & UsableNet
8. Anonymous Hacker Group Destroyed 1 Million Web Pages Owned by Coca-Cola, ToysRUs, McDonald’s from GB Hackers
9. WAI's WCAG 2.2 Quick Reference
10. Microsoft’s Inclusive 101 Guidebook
11. Verizon 2024 Data Breach Investigations Report
12. Human-centered authentication guidelines by Jeremiah Still, Ashley Cain, & David Schuster